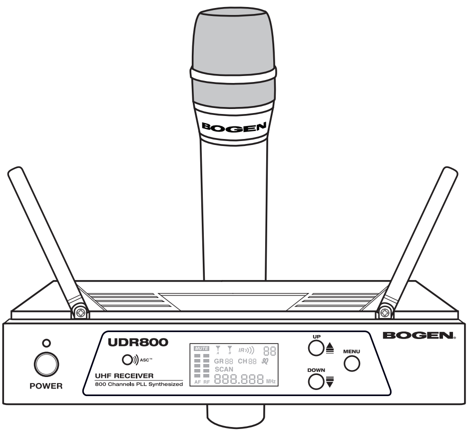
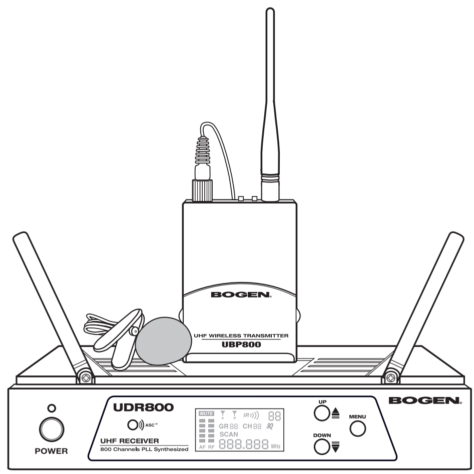
BOGEN®

UHF WIRELESS MICROPHONE





UDMS800HH
WIRELESS MICROPHONE SYSTEM
Handheld Uni-directional Microphone w/ UHF Receiver

UDMS800BP
WIRELESS MICROPHONE SYSTEM
Body-Pack & Lavaliere Microphone w/ UHF Receiver

INSTRUCTION MANUAL

Specifications are subject to change without notice.

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INTRODUCTION

Thank you for purchasing a Bogen UHF PLL Synthesized Microphone System. This system includes high quality professional operating features and is the best performance and price value available in UHF PLL Synthesized wireless systems.

USING THIS MANUAL

This manual lists the features of the UDMS800BP/HH Wireless System and takes you step-by-step through operation of the system. After reading the receiver instructions, turn to the section of the booklet that covers the type of transmitter used with your new system. Each section will give you detailed operating instructions. Also included in this manual are system specifications and servicing information.

SYSTEM FEATURES

UDR800 RECEIVER

- Unsurpassed state-of-the-art PLL UHF performance with 120 dB dynamic range and operation, up to 500 ft. (line-of-sight)
- 800 user-selectable UHF frequencies, one touch Auto-Scan/Sync open channel automatic selection and sync
- ASC™ (Auto-Sync Channels) download feature sends selected Channel information to transmitter via IR sender for easy frequency synchronization
- Sophisticated IF filtering for optimal simultaneous operation of multiple systems in same location
- DigiTRU Diversity™ for maximum range and dropout protection
- 120dB Dynamic Range — the quietest and best sounding UHF wireless available at any price
- Tone Squelch™ for locking out potential interference, and special circuitry for noiseless transmitter ON/OFF switching
- Dual front panel permanently attached swivel antennas
- Front panel with LCD displays A/B diversity, Group/Channel with frequency, ASC™ transfer status, RF/AF level, Mute (squelch) level, and push On/Off power switch
- Back panel with fixed Balanced XLR, MIC Level and adjustable unbalanced ¼" jacks, audio Line outputs and DC input jack
- Half-rack receiver design with top folding dual antennas
- Unique snap-out side panel locking tabs for single receiver or dual receivers (side-by-side) optional rack mounting (mounting kits sold separately)
- Externally powered with included DC adapter (22V DC 400 mA)
- Choice of transmitters: UHT800 Handheld MIC or UBP800 Body-Pack

UHT800 HANDHELD MIC TRANSMITTER

- Sleek metal housing with internal antenna for optimum aesthetics and durable long life
- Unidirectional neodymium dynamic cartridge for optimum true sound, maximum feedback rejection and minimal handling noise
- 800 easily selectable channels via IR Sync for easy synchronization with receiver selected channel
- Easy accessible audio level adjustment for optimum sound
- Power On/Off and Audio mute switch allows convenient audio muting with the transmitter "ON"
- Status LED indicators for unit "ON" (Green) and for low battery alert "ON" (Red)
- Convenient, economical operation with two AA alkaline or NiMH batteries

UBP800 BODY-PACK TRANSMITTER

- 800 easily selectable channels via IR Sync for easy synchronization with receiver selected channel
- Easy accessible input level adjustment for optimum sound
- Power On/Off and Audio mute switch allows convenient audio muting with the transmitter "ON"
- Bi-color LED status indicator for unit "ON" (Green) and for low battery alert "ON" (Red)
- Convenient, economical operation with two AAA Alkaline or NiMH batteries
- Ultra compact housing, removable antenna and unique locking 3.5mm mini plug connector for the microphone cable

UDR800 RECEIVER

1. Rack Mounting the Receiver

There are 2 options available (as accessories) for rack mounting the UDR800 receiver: single or side-by-side with another UDR800 receiver.

A. <u>Single Mounting (RPK89)</u>: Remove the receiver **SIDE MOUNT CLIPS (1)** from each side of the receiver (as shown) and slide in the optional wider **RACK EARS (2)**. *(see page 4)*

B. <u>**Side-by-Side Double Mounting (RPK90):**</u> After removing the **SIDE MOUNT CLIPS (1)** from both UDR800 receivers, join the two receivers with the **JOINING CLIP (3)** and attach the narrow **RACK EARS (4)** as shown. *(see page 4)*

(Note: Do not mount the receiver in a rack directly above an amplifier or other source of high heat — this could degrade the performance of the UDR800. Always ensure adequate airflow and heat dissipation in any rack configuration.)

2. Powering the Receiver

Plug the **22V DC ADAPTER (28)** provided into the **DC INPUT JACK (6)** on the back of the receiver. Then plug the power supply into an AC outlet. Press the **POWER SWITCH (9)** once to turn on the receiver. The **POWER "ON" LED (10)** will now light and the receiver is operational.

3. Antennas

The UDR800 receiver is equipped with attached dual **FOLDING ANTENNAS (11)**. Optimal positions of the antennas are 45° from the receiver (or 90° from each other). For maximum range, it is always best to maintain a line-of-sight (no obstructions) between the receiver antennas and the transmitter at all times whenever possible.

4. Adjusting the Mute Level/RF Squelch

The **MUTE LEVEL/RF SQUELCH (24)** can be changed anytime during the main screen display to quiet the receiver in high noise environment conditions. The control ranges are from level 0 to level 5. The level should be adjusted to a lower number to the minimum RF squelch setting at which the **RF INDICATOR (19)** will remain on while your transmitter is in normal use, up to the maximum operating range anticipated in use for your application. However, in areas of high RF activity, the squelch control may need to be adjusted to a higher number. If the transmitter is off and the receiver signal **RF INDICATOR (19)** or the diversity **A** or **B INDICATOR (20)** flickers or stays on continuously, the squelch should be adjusted to a higher number to stop the flickering. Be careful not to select too high a number setting as this may reduce the operating range to below what is needed. A range walk test will help in selecting the proper level. If the range is not critical, note that a higher level (maximum squelch) setting will also yield a quieter mute function, which might be desired in certain applications. The squelch level is factory preset at maximum sensitivity and operating range (i.e. level 0 for minimum squelch level — maximum usable range).

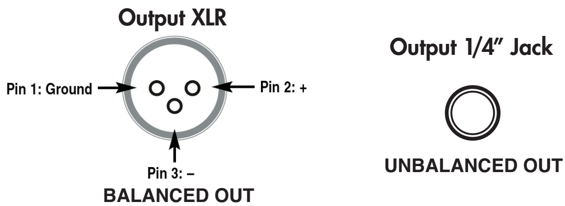
(Note: For easier intuitive operation, the MIN and MAX indicators for this control refer to the minimum and maximum operating range settings, not to the actual mute levels selected, which are the opposite as per above.)

5. Audio Level and Peak LED Indicator

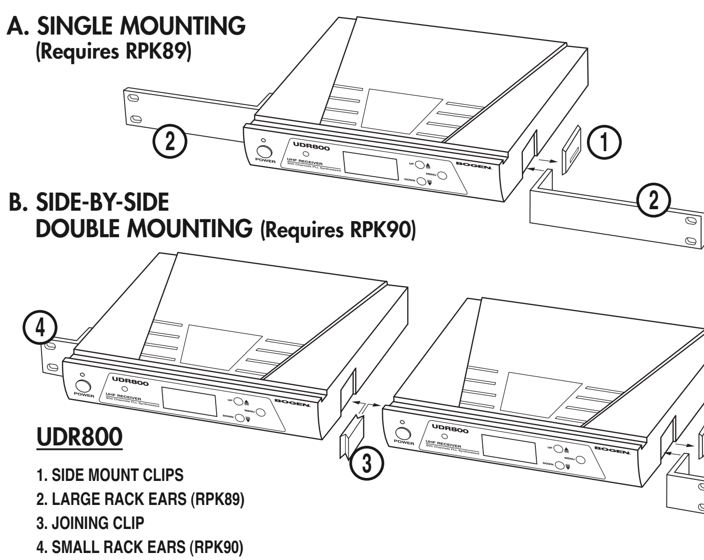
The UDR800 receiver has a 5-bar **AF LCD (18)** display that indicates normal level audio signal from the transmitter. Occasional flickering of the fifth AF LCD (peak level) on loud inputs to the transmitter is normal. If the **AF LCD (18)** lights up full bars continuously, decrease the input audio level to the transmitter or overload distortion may result.

6. Connecting the Audio Output

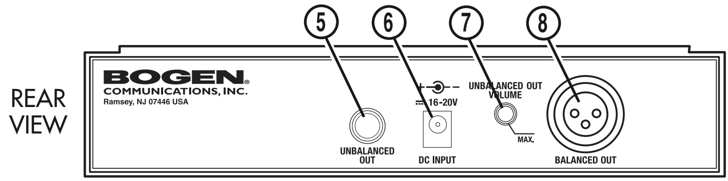
The UDR800 receiver provides both a fixed MIC level **BALANCED MIC OUTPUT XLR (8)** and an adjustable unbalanced line level **AUDIO OUTPUT 1/4"Jack (5)**.



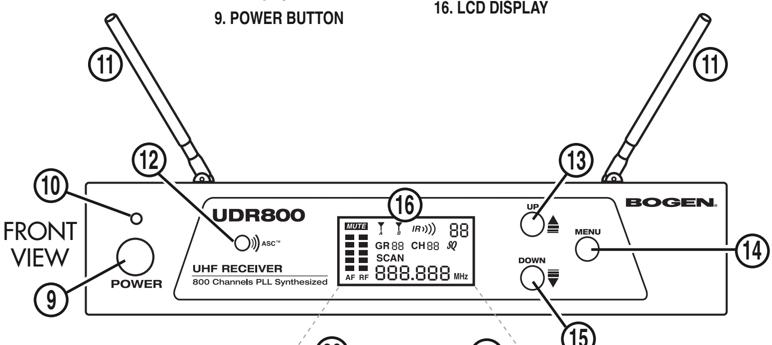
(Note: As when making any connection, make sure the amplifier or mixing board volume is at the minimum level before plugging in the receiver to avoid possible sound system damage.)



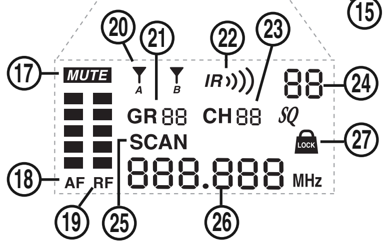
UDR800 RECEIVER

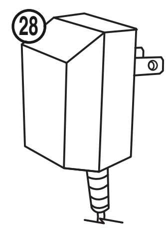


5. UNBALANCED LINE OUT 1/4" JACK
6. DC INPUT JACK
7. UNBALANCED OUT VOLUME CONTROL
8. BALANCED MIC OUT XLR JACK
9. POWER BUTTON
10. POWER LED INDICATOR
11. FOLDING ANTENNAS
12. ASC/IR LED INDICATOR
13. UP BUTTON
14. MENU BUTTON
15. DOWN BUTTON
16. LCD DISPLAY



17. MUTE ICON
18. AF INDICATOR
19. RF INDICATOR
20. A & B INDICATORS
21. GROUP NUMBER
22. IR INDICATOR
23. CHANNEL NUMBER
24. MUTE LEVEL
25. SCAN ICON
26. FREQUENCY
27. LOCK OUT ICON
28. DC POWER SUPPLY ADAPTER





UHT800 HANDHELD MIC TRANSMITTER

1. Microphone Battery Installation

Install batteries by unscrewing the **BATTERY COMPARTMENT COVER (29)** counterclockwise and remove, exposing the **BATTERY HOLDER (38)**. Insert two fresh **AA ALKALINE BATTERIES (32)**, observing the correct polarity, and screw the cover back on to the microphone. Make sure the cover is screwed clockwise completely. Fresh alkaline batteries can last up to 10 hours in use, but in order to ensure optimum performance, it is recommended that you replace the batteries after every 7-8 hours of use.

2. Programming UHT800 to Selected Group/Channel (Frequency)

The transmitter must be programmed to the same frequency as selected for the receiver via automatic synchronization using the IR ASC™ Sync function. It can not be programmed on the transmitter itself. See "Selecting the Receiver Group/Channel and Programming" in next section. To manually IR program the receiver preselected frequency into the transmitter, place the transmitter's **IR RECEPTOR SENSOR WINDOW (37)** 6-12" away from the receiver's **IR WINDOW (12)**. Press the **MENU BUTTON (14)** four times to the IR Screen then press the **UP BUTTON (13)** to start IR programming. This flashing **IR INDICATOR (22)** icon indicates IR transmission is in progress. When the synchronization is completed successfully, the **RF INDICATOR (19)** and the diversity **A** or **B INDICATOR (20)** on the receiver will show up. (See section on Selecting the Group/Channel (Frequency) and IR Programming for transmitters.)

(Note: If no button is pressed for a five second period during a selection, the program is terminated and the process needs to be repeated.)

3. Operating the UHT800 Handheld MIC Transmitter

Turn on the UHT800 by sliding the **AUDIO MUTE (36)** to the OFF position first. Then slide the **POWER SWITCH (35)** to the ON position. The **TX LED INDICATOR (green) (33)** will stay on to indicate that the transmitter is on. The **LOW BATTERY INDICATOR LED (red) (34)** will stay OFF, indicating usable-battery strength. In the case of a dead battery, the **BATTERY INDICATOR LED (34)** will stay on continuously, indicating that the batteries should be replaced. To preserve battery life, turn the transmitter off when not in use.

The microphone is now ready to use. The **A** or **B DIVERSITY LED INDICATOR (20)** on the UDR800 receiver should now be lit, indicating a received signal from the transmitter. When ready to speak, slide the **AUDIO MUTE (36)** to the ON position.

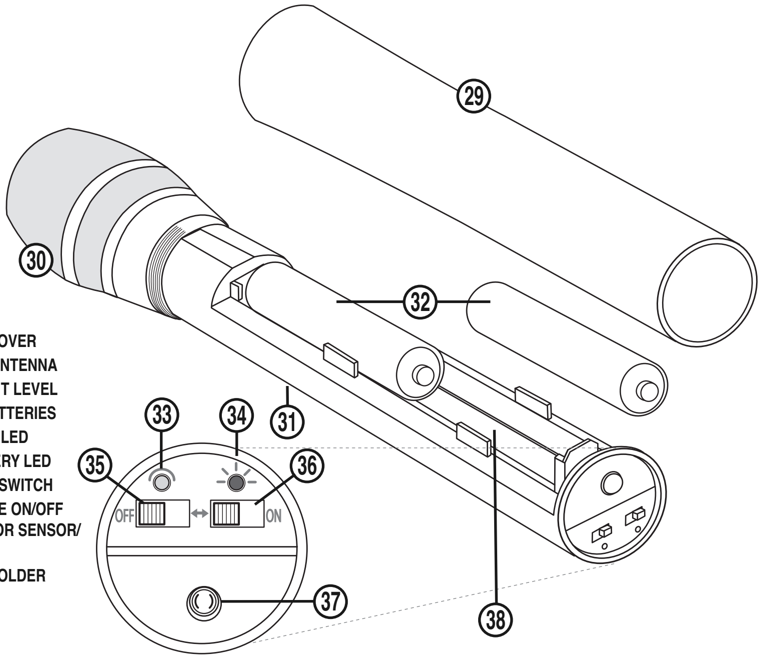
(Note: Observe care in selecting P.A. volume, transmitter location and speaker placement so that acoustic feedback (howling or screeching) will be avoided.)

(Note: The windscreen of the UHT800 functions as a built-in antenna.For proper operation, never remove the windscreen during use, or exchange with another type. For optimum range, maintain line-of-sight between the transmitter and the receiver whenever possible. Holding the microphone tightly, bridging across the windscreen and mic tube, will also lessen range. Hold MIC by the MIC tube housing only for optimum operation.)

For optimum performance, an **AUDIO INPUT LEVEL (31)** is provided. Adjust the gain by turning the control with a small screwdriver. It is recommended that the level be set at about 1/2 maximum. Experiment and set for maximum possible gain without audible distortion on the high level peaks.

(Note: Turning down the gain too much can compromise the signal-to-noise ratio, and is not recommended.)

UHT800 HANDHELD MIC TRANSMITTER



UHT800

29. BATTERY COVER
30. MIC BALL/ANTENNA
31. AUDIO INPUT LEVEL
32. TWO AA BATTERIES
33. POWER ON LED
34. LOW BATTERY LED
35. RF POWER SWITCH
36. AUDIO MUTE ON/OFF
37. IR RECEPTOR SENSOR/ WINDOW
38. BATTERY HOLDER

UBP800 BODY-PACK MIC TRANSMITTER

1. UBP800 Body-Pack Battery Installation

Open the **BATTERY DOOR (47)** by pulling on side tabs and swinging the lid open. Insert two fresh AAA Alkaline Batteries into the **BATTERY COMPARTMENT (46)**, observing the correct polarity. Fresh alkaline batteries can last up to 8 hours in use, but in order to ensure optimum performance, it is recommended that the batteries be replaced after 5-6 hours of use.

2. Lavaliere MIC Connection/Operation

The UBP800 is provided with a 3.5 mm **INPUT JACK (40)** for connecting the audio input. Connect the **LAVALIERE MIC CORD (49)** here. To secure the connection, turn the slip ring on the plug clockwise to thread it on the jack. To unplug, reverse the process. To use the Lavaliere MIC, attach it at chest level. Do not place it too close to the mouth. A distance of about six inches usually works best. When ready to speak, slide the **AUDIO MUTE SWITCH (41)** to the ON position.Slip the transmitter into a pocket or use the **CLIP (48)** on the rear of the unit to attach to your clothes

3. Programming UBP800 to Selected Group/Channel (Frequency)

The transmitter must be programmed to the same frequency as selected for the receiver via automatic synchronization using the IR ASC™ Sync function. It can not be programmed on the transmitter itself. See "Selecting the Receiver Group/Channel and Programming" in next section.

To manually IR program the receiver preselected frequency into the transmitter, place the transmitter's **IR RECEPTOR SENSOR WINDOW (45)** 6-12" away from the receiver's **IR WINDOW (12)**. Press the **MENU BUTTON (14)** four times to the IR Screen then press the **UP BUTTON (13)** to start IR programming. This flashing **IR INDICATOR (22)** icon indicates IR transmission is in progress. When the synchronization is completed successfully, the **RF INDICATOR (19)** and the diversity **A** or **B INDICATOR (20)** on the receiver will show up. (See section on Selecting the Group/Channel (Frequency) and IR Programming for transmitters)

(Note: If no button is pressed for a five second period during a selection, the program is terminated and the process needs to be repeated.)

4. Operating the UBP800 Body-Pack MIC Transmitter

Turn on the UBP800 by sliding the **AUDIO MUTE SWITCH (41)** to the OFF position first, then slide the **POWER SWITCH (43)** to the ON position. The bi-color **LOW BATTERY INDICATOR (42)** will stay ON (green) indicating usable battery strength and that the transmitter is ON. In the case of dead or low batteries, the LED will either not go on at all or will stay ON (red) continuously, indicating that the batteries should be replaced with fresh ones. To preserve battery life, turn the transmitter OFF when not in use. The **A** or **B DIVERSITY LED INDICATORS (20)** on the UDR800 receiver should now be lit, indicating that signal is being received from the transmitter.

(Note: The UBP800 is supplied with a removable **ANTENNA (39)**. *It should always be operated with the supplied antenna. For optimum operating range, always maintain line-of-sight between the transmitter and the receiver whenever possible.)*

5. Microphone Use

Secure the connection from the **LAVALIERE MIC (49)** to the **INPUT JACK (40)** on the Body-Pack. To use the **LAVALIERE MIC (49)**, attach it to the body at chest level. Do not place the MIC too close to the mouth. A distance of about six inches usually works best. When ready to speak, slide the **AUDIO MUTE SWITCH (41)** to the ON position.

UBP800 BODY-PACK MIC TRANSMITTER

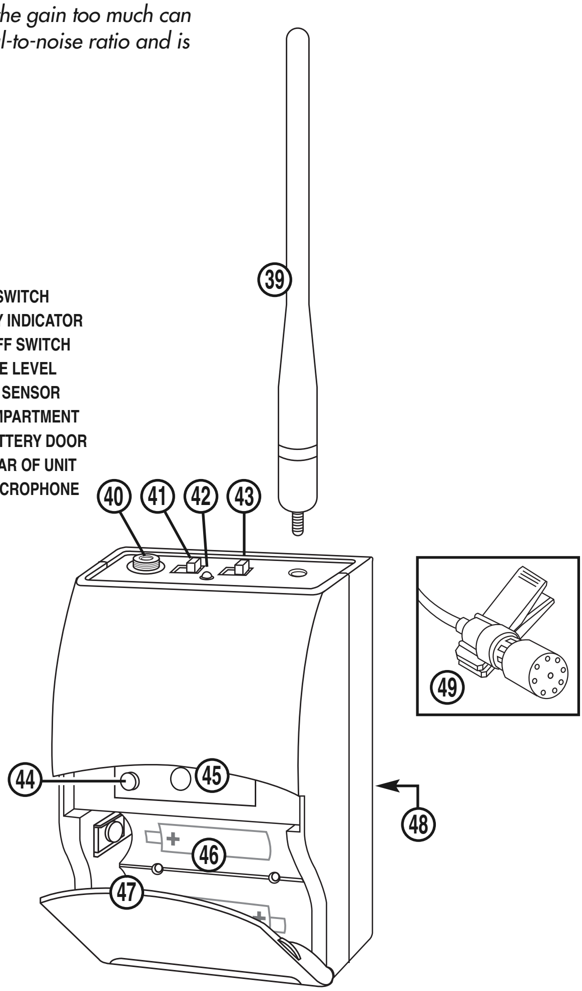
(Note: Observe care in selecting P.A. volume, transmitter location, and speaker placement so that acoustic feedback (howling and screeching) will be avoided. Please also note the pickup pattern characteristics of the microphone selected. Omni-directional mics pickup sound equally from all directions, and are prone to feedback if not used carefully. Uni-directional mics are more resistant to feedback, but best pick up sound sources that are directly in front of the mic. Also, mics that are farther from the sound source, such as lavalieres, require more acoustic gain and thus are more prone to feedback than close-source mics such as handheld models that are used close to the mouth.)

For optimum performance, an **INPUT VOLUME LEVEL (44)** is provided. Adjust the gain by turning the control with a small screwdriver. For lavaliere mic use, it is recommended that the level be set at about 2/3 maximum. Experiment and set for maximum possible gain without audible distortion on the high level peaks.

(Note: Turning down the gain too much can compromise the signal-to-noise ratio and is not recommended.)

UBP800

39. ANTENNA
40. INPUT JACK
41. AUDIO MUTE SWITCH
42. LOW BATTERY INDICATOR
43. POWER ON/OFF SWITCH
44. INPUT VOLUME LEVEL
45. IR RECEPTOR SENSOR
46. BATTERY COMPARTMENT
47. LATCHING BATTERY DOOR
48. BELT CLIP/REAR OF UNIT
49. LAVALIERE MICROPHONE



SELECTING THE GROUP/CHANNEL, IR PROGRAMMING, AND SIMULTANEOUS MULTICHANNEL OPERATION

(Note: The transmitter should be turned ON and ready for the IR communications with the receiver IR receptor for the following process.)

(Note: If no button is pressed for a five second period during a selection, the program is terminated and the process needs to be repeated.)

(Note: For normal operation, the transmitter should have the same channel as displayed on the receiver.)

Choosing Group/Channel for the System

The receiver offers a choice of 15 groups: 10 that are Factory PRESET (Group 11 to 1A) and 5 that are User SELECTABLE (Group 1B to 1F). If the Factory PRESET Group mode is chosen, only a limited numbers of channels are available in these groups. For most convenient setup, each of these groups offers from 3 to 14 channels (depending on group selected) to choose from that are factory preset for simultaneous multichannel operation compatibility and are retained in memory after the receiver is powered off. For the User SELECTABLE Group 1B-1F mode, a letter "U" will light up on the **LCD DISPLAY (16)** instead of the **CHANNEL (23)** number as in the Factory PRESET Groups. Each User SELECTABLE Group has 800 channels to choose from either by manually selecting a channel or using the Auto-Scan in 1MHz segment increments at a time within the frequency band and they are retained in memory after the receiver is powered off. This facilitates easy setup by enabling quick selection of stored channels for any group, i.e, selecting any group will automatically display the last channel selected for that group. See Frequency Listings section for available channels in each group. The previous group and channel used is stored in memory automatically when receiver and transmitter are turned off after operation. Selecting a different group on the receiver in subsequent use will display a different channel as previously selected for that group, however, the transmitter will need again to be sync'ed to that new frequency to complete the system setup for operation.

Receiver ASC™/IR Sync GR/CH (Frequency)

If different frequencies than previously stored in both the receiver and transmitter memories are needed, there are three ways to program the receiver and then sync the selected Group/Channel to the transmitter: One-Touch Automatic ASC™/Auto Sync receiver to transmitter, manual SCAN for Group/Channel, or manual select Group/Channel from the Factory preset or User Selectable channel. Place the transmitter's **IR RECEPTOR SENSOR WINDOW (37)** 6-12" away from the receiver's **IR WINDOW (12)** before starting the following steps.

- For One-Touch channel Autoscan and Automatic ASC™/Auto Sync from the receiver to the transmitter, press the **MENU BUTTON (14)** once, wait for about 5 seconds, the receiver will start the process automatically with no further user action required. A running bar in a clockwise direction on the **LCD DISPLAY (16)** shows the scanning process which normally takes about two seconds. When it finds an interference-free channel, the receiver stores the channel for use, and it will begin ASC™ sync IR download of the selected channel to the transmitter automatically.
- To manually scan the selected Group/Channel, press the **MENU BUTTON (14)** twice for the AUTOSCAN menu, press the **UP BUTTON (13)** once and it will start scanning. A running bar in a clockwise direction shows the scanning process, which normally takes about 2 seconds. When it finds an interference-free channel, it will display and store the frequency/channel for use. It can be rescanned again for a new frequency by press-

ing the **UP BUTTON (13)** or by pressing the **MENU BUTTON (14)** twice to IR MENU (IR icon will light up for IR function), then press the **UP BUTTON (13)** to start IR programming.

- To manually select Group/Channel, press the **MENU BUTTON (14)** once for **GROUP (21)** selection for Factory PRESET Group 11 to 1A mode or User SELECTABLE Group 1B to 1F mode. Use the UP/DOWN buttons to change the group. After selecting a group, press the **MENU BUTTON (14)** twice for channel selection menu. Use the UP/DOWN buttons to change the channels (frequencies) that are available in each group.

  (Note: for Group11 to 1A, the **CH (23)** *display will indicate the channel number chosen, and for Group 1B to 1F only the letter "U" and the frequency chosen will be displayed. See Frequency Listings section for available channels in each group.)*

  After finishing channel selection, press the **MENU BUTTON (14)** once or wait a few seconds for **IR MENU**, and then press the **UP BUTTON (13)** to start IR programming.

This completes the GP/CH (frequency) programming. The next section outlines the procedure for sync'ing the receiver's programmed channel to the transmitter.

Receiver ASC™/IR Sync Manual Programming

To manually program the pre-selected Group/Channel (frequency) from the receiver to the transmitter, place the transmitter's **IR RECEPTOR SENSOR WINDOW (37)** 6-12" away from the receiver's **IR WINDOW (12)**. Press the **MENU BUTTON (14)** four times to the IR Screen Display and then press the **UP BUTTON (13)** to start IR programming. The flashing **IR INDICATOR (22)** icon indicates IR transmission is in progress. When the synchronization is completed successfully (usually in less than 2 seconds), the **RF INDICATOR (19)** and the diversity **A** or **B INDICATOR (20)** on the receiver will display, indicating that the IR linking is completed. The **LCD DISPLAY SCREEN (16)** will show the selected channel. If the UP Button is not pressed during the two seconds of active data transfer, the **IR INDICATOR (22)** will not flash, the LCD Display will revert to the main menu, the receiver will not link to the transmitter, and the transmitter's previously programmed channel remains unchanged.

Instructions for the Setup of Simultaneous Multichannel Operation

This UDR800 receiver is capable of finding an open channel with its autoscan capability. This built-in feature is a quick, convenient way to set up many wireless systems at the same location for simultaneous multichannel operation.

If you are using multiple transmitters at the same location, set up the first transmitter and leave it ON and keep it 10 feet away from the receivers and 1 foot or more between transmitters. This avoids possible duplicate selection of the same channel as already selected for the first receiver. Then start the autoscan function on the second receiver. Repeat this procedure for all receiver/transmitters to be used in your system. Finally with all the transmitters ON, perform a range walk test in the location these systems will be used in to check for potential crosstalk interference in this application.

If you are not satisfied with any of the channels scanned, repeat the autoscan procedure for that receiver again anytime for finding another free channel. This process can be simplified if you select channels within Factory SELECTED Groups 11 to1A, as the channels within those groups are mutually compatible (unless there is outside interference on any of the selected fre-

SELECTING THE GROUP/CHANNEL, IR PROGRAMMING, AND SIMULTANEOUS MULTICHANNEL OPERATION

quencies). If there is any such interference in your location, select as many channels as you can using these 10 groups and then select additional open channels as needed (depending on number of systems to be operated simultaneously) from Groups 1B to 1F. As noted above, all these groups will retain in memory the previously selected channels for that group for easy setup subsequently in that same location

FRONT PANEL LOCK-OUT

Locking Front Panel Controls

In order to avoid accidental re-programming or scanning, there is a Front Panel Lock-Out feature. By pushing the **MENU BUTTON (14)** and the **UP BUTTON (13)** simultaneously, the UDR800 will enter a lock-out state. A **LOCK-OUT SYMBOL (27)** will be displayed on the front panel. The lock-out feature will inhibit the functions of the MENU, UP, and DOWN controls. To unlock, press the **MENU BUTTON (14)** and the **UP BUTTON (13)** simultaneously again.

RF INTERFERENCE & FINDING OPEN CHANNELS

- **The FCC mandates the following information be provided to all end users of this equipment:**
  CONSUMER ALERT: Most users do not need a license to operate this wireless microphone system. Nevertheless, operating this microphone system without a license is subject to certain restrictions: the system may not cause harmful interference; it must operate at a low power level (not in excess of 50mW); and it has no protection from interference received from any other device. Purchasers should also be aware that the FCC is currently evaluating use of wireless microphone systems, and these rules are subject to change.

  For more information, call the FCC at **1-888-CALL-FCC (TTY: 1-888-TELL-FCC)**
  or visit: ***www.fcc.gov/cgb/consumerfacts/wirelessmic_factsheet.html***
- If you encounter slight receiving interference when the transmitter is far from the receiver (from other than an operating TV station on the same frequency), it can often be overcome by adjusting the receiver's **MUTE LEVEL/SQUELCH (24)** — see Adjusting the Squelch. If receiving interference on a selected channel with the transmitter off, you must reprogram the receiver and transmitter to a different channel.
- To reprogram, you must first find an open channel. To do this, follow the procedure outlined in Selecting the UDR800 Receiver Channel. With the associated transmitter off, scroll through the channels to find one that shows no received signal (not lit) on the receiver's **RF INDICATOR (19)** and **A** or **B INDICATORS (20)**. Also, neither of these LCDs should be lit on each of the three immediately adjacent channels both above and below the selected channel for optimal interference-free operation (i.e., in a field of seven total adjacent channels—with the channel used in the middle). If operating multiple UDMS800 Series systems simultaneously, repeat this procedure with every new channel being selected, with previously tuned systems all on, both transmitters and receivers. Also see: **Programming the Selected Group/Channel (frequency) & IR Programming** (Receiver & Transmitter) in the previous section.
- Please note that wireless frequencies are shared with other radio services. According to FCC regulations, wireless microphone operations are unprotected from interference from other licensed operations in the band. If any interference is received by any government or non-government operation, the wireless microphone must cease operation or change frequencies. The above statement is valid only for use in the U.S.A.

FREQUENCY PLAN

BAND 1: UDR800 Frequency Listing for each Group from 11 to 1A
(470.000MHz - 489.975MHz)

FACTORY PRESET CHANNELS											USER SELECTABLE CHANNELS	
	Group 11	Group 12	Group 13	Group 14	Group 15	Group 16	Group 17	Group 18	Group 19	Group 1A		Groups 1B-1F
CH 1	470.325	470.025	470.050	470.125	470.725	471.425	471.300	477.300	483.300	488.100	CH 1	470.000
CH 2	470.725	470.625	470.925	470.425	475.825	471.725	471.750	477.750	483.750	489.450	CH 2	470.025
CH 3	471.225	471.425	472.125	475.325	476.425	478.025	472.350	478.350	484.350	489.750	CH 3	470.050
CH 4	472.025	472.425	473.625				473.100	479.350	485.100		:	:
CH 5	473.025	474.025	476.025				474.300	480.300	486.300		:	:
CH 6	474.425	476.025	479.025				475.800	481.800	487.800		:	:
CH 7	475.125	478.825	483.225								:	:
CH 8	476.325	483.025	489.525								:	EVERY 25KHz
CH 9	476.625	486.025									:	:
CH 10	479.125	489.225									:	:
CH 11	482.125										:	:
CH 12	484.125										CH 798	489.925
CH 13	488.325										CH 799	489.950
CH 14	489.425										CH 800	489.975

FREQUENCY LISTINGS

BAND 1: UDR800 Frequency Listing for each Group from 1B to 1F
(470.000MHz - 490.000MHz)

USER SELECTABLE CHANNELS

CHS	1	51	101	151	201	251	301	351	401	451	501	551	601	651	701	751
1	470.000	471.250	472.500	473.750	475.000	476.250	477.500	478.750	480.000	481.250	482.500	483.750	485.000	486.250	487.500	488.750
2	470.025	471.275	472.525	473.775	475.025	476.275	477.525	478.775	480.025	481.275	482.525	483.775	485.025	486.275	487.525	488.775
3	470.050	471.300	472.550	473.800	475.050	476.300	477.550	478.800	480.050	481.300	482.550	483.800	485.050	486.300	487.550	488.800
4	470.075	471.325	472.575	473.825	475.075	476.325	477.575	478.825	480.075	481.325	482.575	483.825	485.075	486.325	487.575	488.825
5	470.100	471.350	472.600	473.850	475.100	476.350	477.600	478.850	480.100	481.350	482.600	483.850	485.100	486.350	487.600	488.850
6	470.125	471.375	472.625	473.875	475.125	476.375	477.625	478.875	480.125	481.375	482.625	483.875	485.125	486.375	487.625	488.875
7	470.150	471.400	472.650	473.900	475.150	476.400	477.650	478.900	480.150	481.400	482.650	483.900	485.150	486.400	487.650	488.900
8	470.175	471.425	472.675	473.925	475.175	476.425	477.675	478.925	480.175	481.425	482.675	483.925	485.175	486.425	487.675	488.925
9	470.200	471.450	472.700	473.950	475.200	476.450	477.700	478.950	480.200	481.450	482.700	483.950	485.200	486.450	487.700	488.950
10	470.225	471.475	472.725	473.975	475.225	476.475	477.725	478.975	480.225	481.475	482.725	483.975	485.225	486.475	487.725	488.975
11	470.250	471.500	472.750	474.000	475.250	476.500	477.750	479.000	480.250	481.500	482.750	484.000	485.250	486.500	487.750	489.000
12	470.275	471.525	472.775	474.025	475.275	476.525	477.775	479.025	480.275	481.525	482.775	484.025	485.275	486.525	487.775	489.025
13	470.300	471.550	472.800	474.050	475.300	476.550	477.800	479.050	480.300	481.550	482.800	484.050	485.300	486.550	487.800	489.050
14	470.325	471.575	472.825	474.075	475.325	476.575	477.825	479.075	480.325	481.575	482.825	484.075	485.325	486.575	487.825	489.075
15	470.350	471.600	472.850	474.100	475.350	476.600	477.850	479.100	480.350	481.600	482.850	484.100	485.350	486.600	487.850	489.100
16	470.375	471.625	472.875	474.125	475.375	476.625	477.875	479.125	480.375	481.625	482.875	484.125	485.375	486.625	487.875	489.125
17	470.400	471.650	472.900	474.150	475.400	476.650	477.900	479.150	480.400	481.650	482.900	484.150	485.400	486.650	487.900	489.150
18	470.425	471.675	472.925	474.175	475.425	476.675	477.925	479.175	480.425	481.675	482.925	484.175	485.425	486.675	487.925	489.175
19	470.450	471.700	472.950	474.200	475.450	476.700	477.950	479.200	480.450	481.700	482.950	484.200	485.450	486.700	487.950	489.200
20	470.475	471.725	472.975	474.225	475.475	476.725	477.975	479.225	480.475	481.725	482.975	484.225	485.475	486.725	487.975	489.225
21	470.500	471.750	473.000	474.250	475.500	476.750	478.000	479.250	480.500	481.750	483.000	484.250	485.500	486.750	488.000	489.250
22	470.525	471.775	473.025	474.275	475.525	476.775	478.025	479.275	480.525	481.775	483.025	484.275	485.525	486.775	488.025	489.275
23	470.550	471.800	473.050	474.300	475.550	476.800	478.050	479.300	480.550	481.800	483.050	484.300	485.550	486.800	488.050	489.300
24	470.575	471.825	473.075	474.325	475.575	476.825	478.075	479.325	480.575	481.825	483.075	484.325	485.575	486.825	488.075	489.325
25	470.600	471.850	473.100	474.350	475.600	476.850	478.100	479.350	480.600	481.850	483.100	484.350	485.600	486.850	488.100	489.350
26	470.625	471.875	473.125	474.375	475.625	476.875	478.125	479.375	480.625	481.875	483.125	484.375	485.625	486.875	488.125	489.375
27	470.650	471.900	473.150	474.400	475.650	476.900	478.150	479.400	480.650	481.900	483.150	484.400	485.650	486.900	488.150	489.400
28	470.675	471.925	473.175	474.425	475.675	476.925	478.175	479.425	480.675	481.925	483.175	484.425	485.675	486.925	488.175	489.425
29	470.700	471.950	473.200	474.450	475.700	476.950	478.200	479.450	480.700	481.950	483.200	484.450	485.700	486.950	488.200	489.450
30	470.725	471.975	473.225	474.475	475.725	476.975	478.225	479.475	480.725	481.975	483.225	484.475	485.725	486.975	488.225	489.475
31	470.750	472.000	473.250	474.500	475.750	477.000	478.250	479.500	480.750	482.000	483.250	484.500	485.750	487.000	488.250	489.500
32	470.775	472.025	473.275	474.525	475.775	477.025	478.275	479.525	480.775	482.025	483.275	484.525	485.775	487.025	488.275	489.525
33	470.800	472.050	473.300	474.550	475.800	477.050	478.300	479.550	480.800	482.050	483.300	484.550	485.800	487.050	488.300	489.550
34	470.825	472.075	473.325	474.575	475.825	477.075	478.325	479.575	480.825	482.075	483.325	484.575	485.825	487.075	488.325	489.575
35	470.850	472.100	473.350	474.600	475.850	477.100	478.350	479.600	480.850	482.100	483.350	484.600	485.850	487.100	488.350	489.600
36	470.875	472.125	473.375	474.625	475.875	477.125	478.375	479.625	480.875	482.125	483.375	484.625	485.875	487.125	488.375	489.625
37	470.900	472.150	473.400	474.650	475.900	477.150	478.400	479.650	480.900	482.150	483.400	484.650	485.900	487.150	488.400	489.650
38	470.925	472.175	473.425	474.675	475.925	477.175	478.425	479.675	480.925	482.175	483.425	484.675	485.925	487.175	488.425	489.675
39	470.950	472.200	473.450	474.700	475.950	477.200	478.450	479.700	480.950	482.200	483.450	484.700	485.950	487.200	488.450	489.700
40	470.975	472.225	473.475	474.725	475.975	477.225	478.475	479.725	480.975	482.225	483.475	484.725	485.975	487.225	488.475	489.725
41	471.000	472.250	473.500	474.750	476.000	477.250	478.500	479.750	481.000	482.250	483.500	484.750	486.000	487.250	488.500	489.750
42	471.025	472.275	473.525	474.775	476.025	477.275	478.525	479.775	481.025	482.275	483.525	484.775	486.025	487.275	488.525	489.775
43	471.050	472.300	473.550	474.800	476.050	477.300	478.550	479.800	481.050	482.300	483.550	484.800	486.050	487.300	488.550	489.800
44	471.075	472.325	473.575	474.825	476.075	477.325	478.575	479.825	481.075	482.325	483.575	484.825	486.075	487.325	488.575	489.825
45	471.100	472.350	473.600	474.850	476.100	477.350	478.600	479.850	481.100	482.350	483.600	484.850	486.100	487.350	488.600	489.850
46	471.125	472.375	473.625	474.875	476.125	477.375	478.625	479.875	481.125	482.375	483.625	484.875	486.125	487.375	488.625	489.875
47	471.150	472.400	473.650	474.900	476.150	477.400	478.650	479.900	481.150	482.400	483.650	484.900	486.150	487.400	488.650	489.900
48	471.175	472.425	473.675	474.925	476.175	477.425	478.675	479.925	481.175	482.425	483.675	484.925	486.175	487.425	488.675	489.925
49	471.200	472.450	473.700	474.950	476.200	477.450	478.700	479.950	481.200	482.450	483.700	484.950	486.200	487.450	488.700	489.950
50	471.225	472.475	473.725	474.975	476.225	477.475	478.725	479.975	481.225	482.475	483.725	484.975	486.225	487.475	488.725	489.975

SPECIFICATIONS

OVERALL SYSTEM PERFORMANCE

Operating Frequency Range	470 MHz-490 MHz (U.S.)
Freq. Synthesized	(800 channels switchable) 25 kHz/step
PLL System Frequency Stability	<0.005%
Frequency Response	50 Hz-18 kHz +/-3 dB
Dynamic Range	120 dB
Harmonic Distortion	<0.5%
Modulation	FM (F3E) +/-25 kHz normal, +/-75 kHz max.
Operating Range	150-250 feet typical, 500+ feet max. line-of-sight

UDR800 RECEIVER

Receiver System	Dual conversion Super Heterodyne with Digi-True Diversity (dual antennas with optimum reception selected)
Selectivity	60 dB, normal +/-75 kHz offset
Image Rejection	-70 dB, minimum
Sensitivity	-107 dBm, normal
Spurious Rejection	65 dB, normal
Mute /Squelch	Adjustable (-65 dBm to -95 dBm), Tone Squelch 40 kHz
Controls	Power ON/OFF push switch, VOLUME line level pot, MENU, UP/DOWN buttons
LCD Display	MUTE, AF/RF bars, A/B diversity, IR, GR/CH, MUTE Level, SCAN, Frequency
LED Indicator	Power ON
Audio Outputs	LINE OUT UNBALANCED: adjustable line audio output
MIC Out Balanced	Fixed MIC level audio output
Output Impedance	Unbalanced: 1k Ω and Balanced: for 600 Ω loads
Power Requirement	22V DC/0.4A
Antennas	Dual permanently attached swivel antennas
Dimensions	8″ W x 1-5/8″ H x 5-1/8″ D (20.2cm x 4.1cm x 13cm)
Product Weight	1 lb. (454g)
Housing Construction	ABS Plastic

UHT800 HANDHELD TRANSMITTER

RF Output Power	+17 dBm Max, +14 dBm (25mW typical)
Harmonic/Spurious Emission	-50 dBc normal
Impedance	3.0k Ω
Controls	Power and Audio ON/OFF switches, Input Level
LED Display	Power ON (GREEN), Low Battery ON (RED)
Antenna Type	Integral
Battery Type	2 x AA alkaline or NiMH
Battery Life	8-10 hours typical
Dimensions	9-1/8″ Long x 2″ dia. (23.1cm x 5.1cm)
Product Weight (w/o batteries)	10 oz. (283g)
Housing Construction	Metal

UBP800 BODY-PACK TRANSMITTER

RF Output Power	+17 dBm Max, +14 dBm (25mW typical)
Harmonic/Spurious Emission	-50 dBc normal
Input Impedance	5k Ω (Lavaliere); 500k Ω (Instrument)
Controls	Power and Audio ON/OFF switches, Input Level
Input Connector	Locking 3.5 mm mini-jack
LED Display	Bi-Color - Power ON (GREEN) and Low Battery ON (RED)
Antenna Type	External Removable
Battery Type	2 x AAA alkaline or NiMH
Battery Life	6-8 Hours typical, alkaline
Dimensions	2-1/4″ W x 3-3/8″ H x 1″ D (5.7cm x 8.6cm x 2.5cm)
Product Weight (w/o batteries)	2.8 oz. (79g)
Housing Construction	ABS Plastic

LIMITED WARRANTY; EXCLUSION OF CERTAIN DAMAGES

The **Bogen UHF Wireless Microphone Systems (UDMS800BP/HH)** are warranted to be free from defects in material and workmanship for one (1) year from the date of sale to the original purchaser. Any part of the product covered by this warranty that, with normal installation and use, becomes defective (as confirmed by Bogen upon inspection) during the applicable warranty period, will be repaired or replaced by Bogen, at Bogen's option, provided the product is shipped insured and prepaid to: Bogen Factory Service Department, 50 Spring Street, Ramsey, NJ 07446, USA. Repaired or replacement product will be returned to you freight prepaid. This warranty does not extend to any of our products that have been subjected to abuse, misuse, improper storage, neglect, accident, improper installation or have been modified or repaired or altered in any manner whatsoever, or where the serial number or date code has been removed or defaced.

THE FOREGOING LIMITED WARRANTY IS BOGEN'S SOLE AND EXCLUSIVE WARRANTY AND THE PURCHASER'S SOLE AND EXCLUSIVE REMEDY. BOGEN MAKES NO OTHER WARRANTIES OF ANY KIND, EITHER EXPRESS OR IMPLIED, AND ALL IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE ARE HEREBY DISCLAIMED AND EXCLUDED TO THE MAXIMUM EXTENT ALLOWABLE BY LAW. Bogen's liability arising out of the manufacture, sale or supplying of products or their use or disposition, whether based upon warranty, contract, tort or otherwise, shall be limited to the price of the product. **IN NO EVENT SHALL BOGEN BE LIABLE FOR SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, LOSS OF PROFITS, LOSS OF DATA OR LOSS OF USE DAMAGES) ARISING OUT OF THE MANUFACTURE, SALE OR SUPPLYING OF PRODUCTS, EVEN IF BOGEN HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES OR LOSSES.** Some States do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you. This warranty gives you specific legal rights, and you may also have other rights which vary from State to State.

Products that are out of warranty will also be repaired by the Bogen Factory Service Department – same address as above or call 201-934-8500. The parts and labor involved in these repairs are warranted for 90 days when repaired by the Bogen Factory Service Department. All shipping charges in addition to parts and labor charges will be at the owner's expense. All returns require a Return Authorization number. For most efficient warranty or repair service, please include a description of the failure.

12/2008

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